

# **CHAPTER 1**

## **PROJECT PURPOSE**

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## **1.1 RESPONSIBILITY FOR STATEWIDE ENERGY CONSERVATION, PLANNING, AND ALTERNATE ENERGY DEVELOPMENT EFFORTS**

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This study was prepared for the State of Hawaii Department of Business, Economic Development and Tourism (DBEDT) as part of the Hawaii Energy Strategy program. Authority and responsibility for energy activities such as the Hawaii Energy Strategy belong to the Director of DBEDT as the State Energy Resources Coordinator. Section 196-4 of the Hawaii Revised Statutes (as amended) establishes twelve specific powers and duties of the Energy Resources Coordinator, which include:

- formulating plans, including objectives, criteria to measure accomplishment of objectives, programs through which the objectives are to be attained, and financial requirements for the optimum development of Hawaii's energy resources;
- conducting systematic analysis of existing and proposed energy resource programs, evaluating the analysis conducted by government agencies and other organizations and recommending to the Governor and to the Legislature programs which represent the most effective allocation of resources for the development of energy sources;
- formulating and recommending specific proposals, as necessary, for conserving energy and fuel, including the allocation and distribution thereof, to the governor and to the legislature;
- assisting public and private agencies in implementing energy conservation and related measures;
- developing programs to encourage private and public exploration and research of alternative energy resources which will benefit the state;
- conducting public education programs to inform the public of the energy situation as may exist from time to time and of the government actions taken thereto; and
- serving as consultant to the governor, public agencies and private industry on matters related to the acquisition, utilization and conservation of energy resources.

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## 1.2 STATE ENERGY OBJECTIVES

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The state energy objectives are contained in the Hawaii State Planning Law, Hawaii Revised Statutes (as amended), Chapter 226, which states:

*"226-18 Objectives and policies for facility systems--energy.*

*(a) Planning for the state's facility systems with regard to energy shall be directed towards the achievement of the following objectives:*

- (1) Dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people;*
- (2) Increased energy self-sufficiency where the ratio of indigenous to imported energy use is increased; and*
- (3) Greater energy security in the face of threats to Hawaii's energy supplies and systems.*

*(b) To achieve the energy objectives, it shall be the policy of this State to ensure the provision of adequate, reasonably priced, and dependable energy services to accommodate demand.*

*(c) To further achieve the energy objectives, it shall be the policy of this State to:*

- (1) Support research and development as well as promote the use of renewable energy sources;*
- (2) Ensure that the combination of energy supplies and energy-saving systems are sufficient to support the demands of growth;*
- (3) Base decisions of least-cost supply-side and demand-side energy resource options on a comparison of their total costs and benefits when a least-cost is determined by a reasonably comprehensive, quantitative, and qualitative accounting of their long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits;*
- (4) Promote all cost-effective conservation of power and fuel supplies through measures including:*
  - (A) Development of cost-effective demand-side management programs;*
  - (B) Education; and*
  - (C) Adoption of energy-efficient practices and technologies;*

- (5) *Ensure to the extent that new supply-side resources are needed, the development or expansion of energy systems utilizes the least-cost energy supply option and maximizes efficient technologies;*
  - (6) *Support research, development, and demonstration of energy efficiency, load management, and other demand- side management programs, practices, and technologies; and*
  - (7) *Promote alternate fuels and energy efficiency by encouraging diversification of transportation modes and infrastructure."*
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### **1.3 THE HAWAII ENERGY STRATEGY PROGRAM**

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This project is one of seven projects which will produce an integrated energy strategy for the State of Hawaii. Program goals are as follows:

- increased diversification of fuels and sources of supply of these fuels;
  - increased energy efficiency and conservation;
  - development and implementation of regulated and non-regulated energy development strategies with the least possible overall costs to Hawaii's society;
  - establishment of a comprehensive energy policy analysis, planning, and evaluation system;
  - increased use of indigenous, renewable energy resources; and
  - enhanced contingency planning capability to effectively contend with energy supply disruptions.
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### **1.4 DEVELOPMENT OF A TRANSPORTATION ENERGY STRATEGY FOR THE STATE OF HAWAII**

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The transportation portion of the Hawaii Energy Strategy consists of three parts:

- an evaluation of transportation energy demand and transportation energy management options;
- an evaluation of transportation energy supply options; and
- preparation of recommendations and a comprehensive transportation energy strategy for the State of Hawaii.

#### **1.4.1     TRANSPORTATION ENERGY DEMAND**

Transportation planning has received a great deal of attention in the state, in the various counties, and especially in Honolulu. The issues of highway construction, bus fleet expansion, Transportation System Management (TSM) projects, bikeways, fixed-rail mass transit, etc., are highly controversial issues with many players. Energy concerns have not weighed heavily with those involved in decisions about one particular system over another; historically, the energy demands have not generally been considered or quantified.

In the short term, there are significant and numerous opportunities for energy efficiency and use of alternative fuels in currently existing transportation plans. In the long term, evaluation and consideration (in the early stages of transportation planning) of the energy demands associated with each of the various transportation alternatives is necessary for the success of any long-term transportation energy demand management and planning effort.

#### **1.4.2     TRANSPORTATION ENERGY SUPPLY**

Considerable activity in the area of alternative fuel production, demonstration, use, and assessment of impacts has taken place and is ongoing internationally, nationally, and locally. Alternative transportation fuels projects funded by and/or involving the U.S. Department of Energy, the U.S. Department of Agriculture, the U.S. General Services Administration, the U.S. Department of Defense, various national laboratories, the State of Hawaii, the University of Hawaii, each of the counties, and numerous other public and private organizations have been ongoing at various levels in Hawaii for many years. Several of the potential alternative transportation fuels hold significant promise for production and use in Hawaii; however, it is necessary to comparatively evaluate and quantify relative costs, benefits, barriers, infrastructure and other requirements in the Hawaii context.

#### **1.4.3     TRANSPORTATION ENERGY STRATEGY**

Hawaii Energy Strategy Project 5, Transportation Energy Strategy Development, was prepared to:

- collect and synthesize information on the present and future use of energy in Hawaii's transportation sector;
- examine the potential of energy conservation to affect future energy demand;
- analyze the possibility of satisfying a portion of the state's future transportation energy demand through alternative fuels; and
- recommend a program targeting the state's transportation sector to help achieve state energy goals.

The analyses and conclusions of this report are to be assessed in relation to the other Hawaii Energy Strategy studies in developing a comprehensive state program.